

STREETSVILLE
SEWAGE TREATMENT PLANT

ANNUAL REPORT

1960

PREPARED BY
THE DIVISION OF PLANT OPERATIONS
ONTARIO WATER RESOURCES COMMISSION

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VILLAGE OF STREETSVILLE

OWRC Project 57-S-5

1960 ANNUAL REPORT

On June 27, 1959, the Village of Streetsville, in conjunction with its centennial celebration, officially opened its new sewage treatment plant, built as a joint project with the Ontario Water Resources Commission.

The Village Council had made application to the OWRC in January of 1957 and received approval for the \$366,000.00 plant in May of the same year. The plans and specifications were prepared by Proctor and Redfern Consulting Engineers and the plant was built by Tret Construction Company under the supervision of the Construction Division of the OWRC.

Population of Streetsville in 1958 was approximately 4,400 persons. The plant is designed for an average dry weather flow of 800,000 gallons per day, to be treated by the activated sludge method. The design capacity is such that the expected growth of Streetsville will not cause overloading of the plant for some time.

The old Streetsville plant consisted of a septic tank and sand filter beds. These parts have been incorporated into the new plant, with the septic tank now acting as a storm overflow holding tank.

Sewage enters the new Streetsville plant through a 14-inch diameter cast iron main to manually cleaned bar screens and grit channels. This removes coarse material and grit. It is at this point that flows in excess of the design capacity are diverted to the storm holding tank until the flow subsides at which time the contents of this tank pass through the plant for treatment.

The raw sewage from the grit channels flows through a measuring flume and into the primary clarifier. Here some of the settleable solids are removed as sludge and the primary effluent is discharged to the aeration tanks through peripheral overflow channels. The sludge is pumped to a digester

where, in a controlled environment, the sludge is reduced to an innocuous solid. When digestion is complete the sludge is run onto drying beds and trucked away as a dry solid.

The primary effluent flows to the aeration tanks where air is introduced into the sewage. Return activated sludge is added here to seed the process. The aeration tank effluent flows to the final tanks where the sludge settles out. The sludge from the secondary tank is returned to either the aeration tank as return activated sludge or to the primary tank as waste sludge and eventually to the digesters.

The secondary effluent passes through the chlorine contact chamber for chlorination and then is discharged to the Credit River. This effluent may also be run onto the effluent filters during times of low flows in the Credit River.

During the year of 1960, the following results were achieved at this plant:

Reduction of 5 day BOD in the sewage - 94.5 %

Reduction of suspended solids in the sewage - 89.5 %

This means that approximately 90% of the suspended solids entering the plant was removed before discharging the effluent to the Credit River and approximately 95% of the Biochemical Oxygen Demand of the raw sewage was satisfied. In actual numbers, the treatment plant removed an average of 2300 pounds of suspended solids per million gallons of water. These results are very close to the theoretical results for this type of sewage treatment plant.

The average daily flow throughout the year was 256,000 gallons of sewage per day. (See Figure 1) On July 8, the flow was at a minimum for the year with 105,000 gallons flowing through the plant during the day. A maximum flow rate of 1,160,000 gallons per day was recorded on May 10. The total

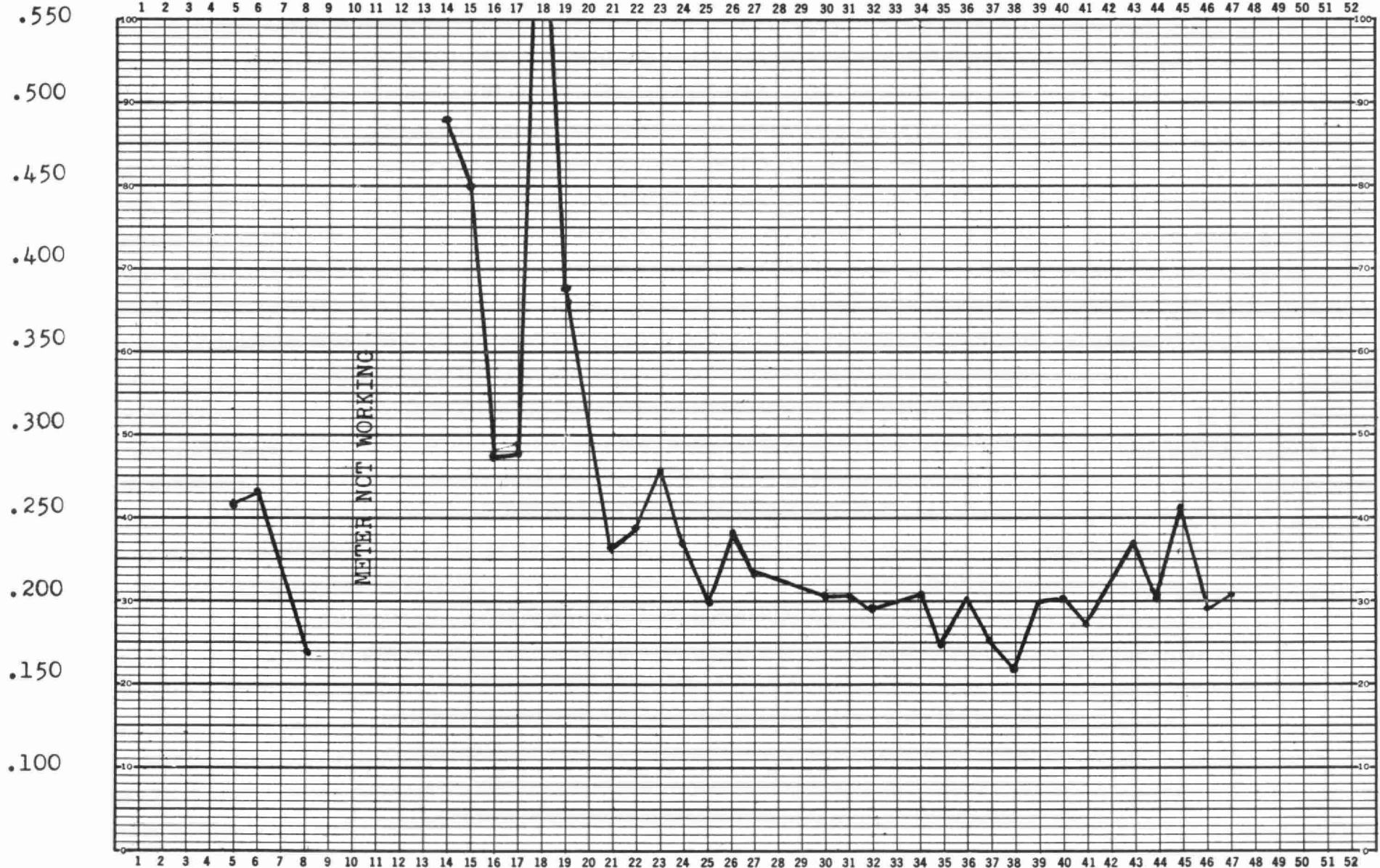
amount of sewage treated in 1960 was 93.85 million gallons. The operating cost for the year was approximately \$10,500.00, including payroll, fuel, power, chemicals, general supplies, repair and maintenance and sundry items. This means that the cost of treating sewage in Streetsville works out at approximately \$0.11 per 1000 gallons. As the flow increases to the design capacity of the plant the unit cost should gradually decline to approximately one half the present figure.

Operation of the plant during the past year has for the most part been routine. Few difficulties were encountered and these were, in most cases, cleared up by the head office staff of the Division of Plant Operations. The operator, Mr. R. Dadd, is capable and enthusiastic, and kept the plant neat and tidy. Certain modifications are now being contemplated for the coming year to improve the protection of equipment in case of momentary power failure and to utilize further the digester gas for sludge and building heating. These comparatively minor jobs and will be supervised by the Plant Operations staff.

The Streetsville Sewage Treatment Plant, as seen by the foregoing, provides efficient treatment at a reasonable cost, has been a comparatively trouble free operation, and has been instrumental in reducing pollution in this section of the Credit River.

AVERAGE DAILY FLOW FOR THE WEEK STREETSVILLE SEWAGE TREATMENT PLANT

M.G.D.



YEAR OF 19 60

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